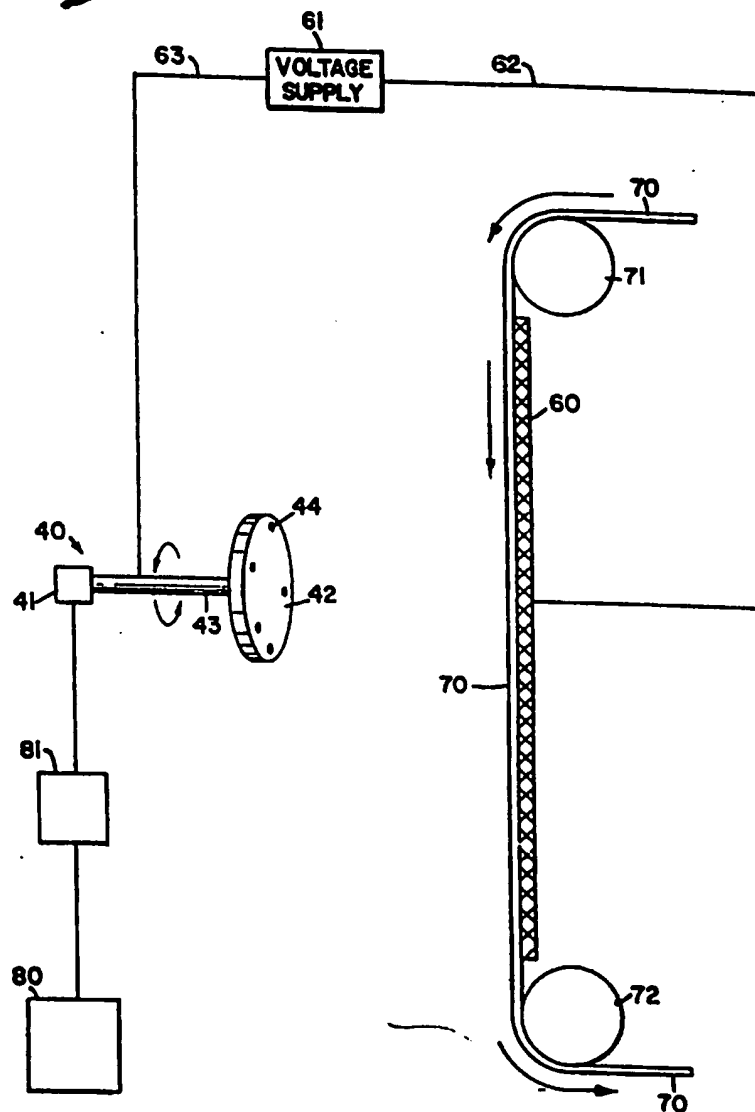


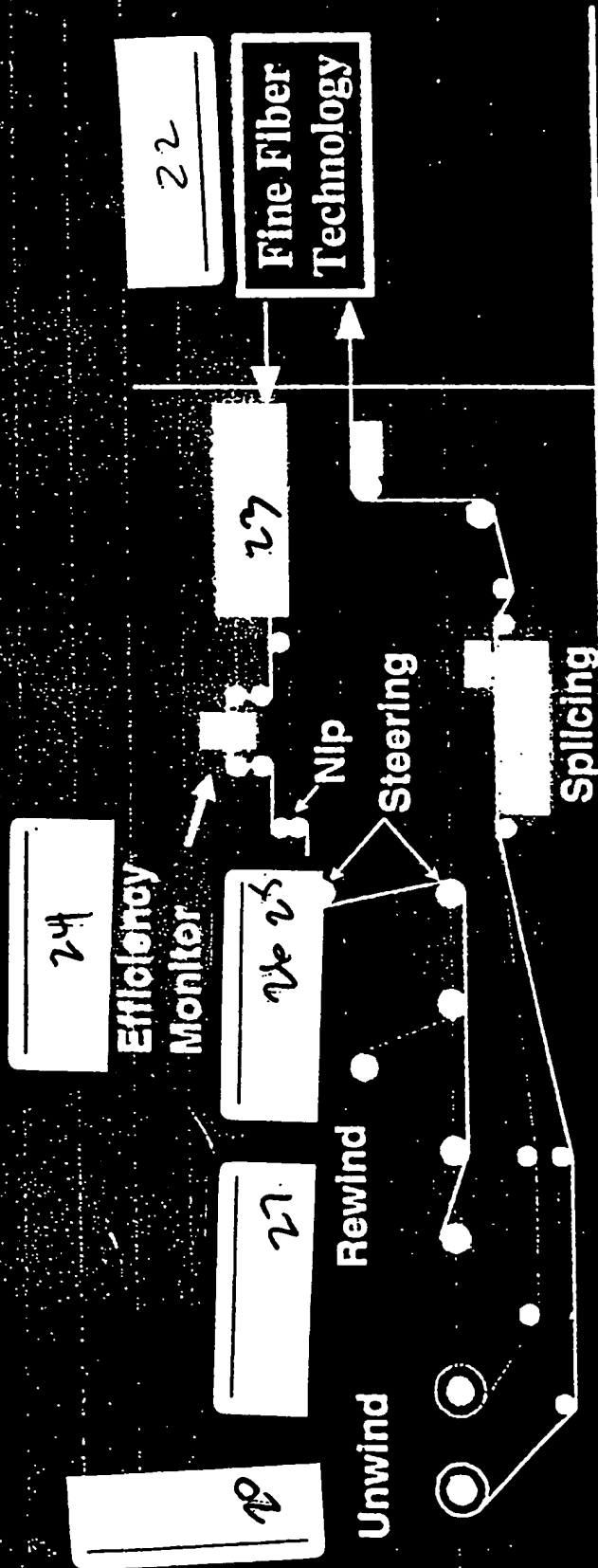
CONFIDENTIAL

FIG. 1



CONFIDENTIAL

Fine Fiber Technology



Donaldson
T.M. Walk
6 Dec 95

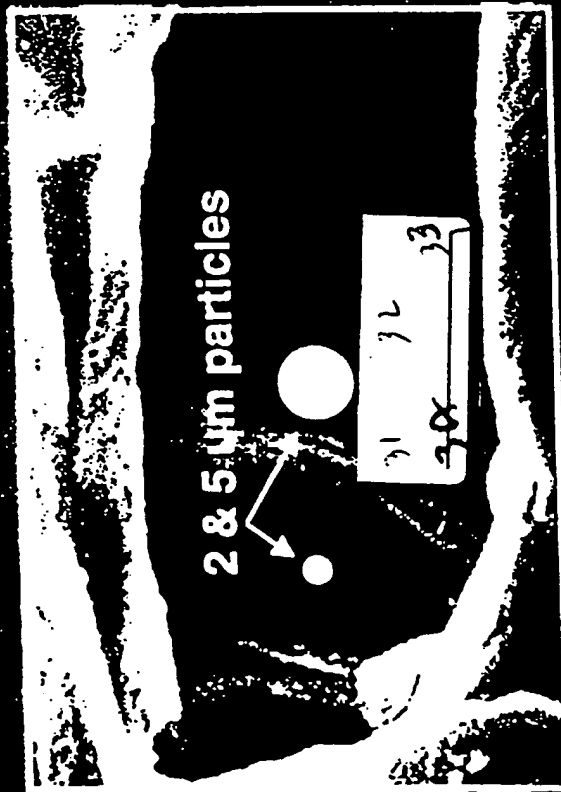
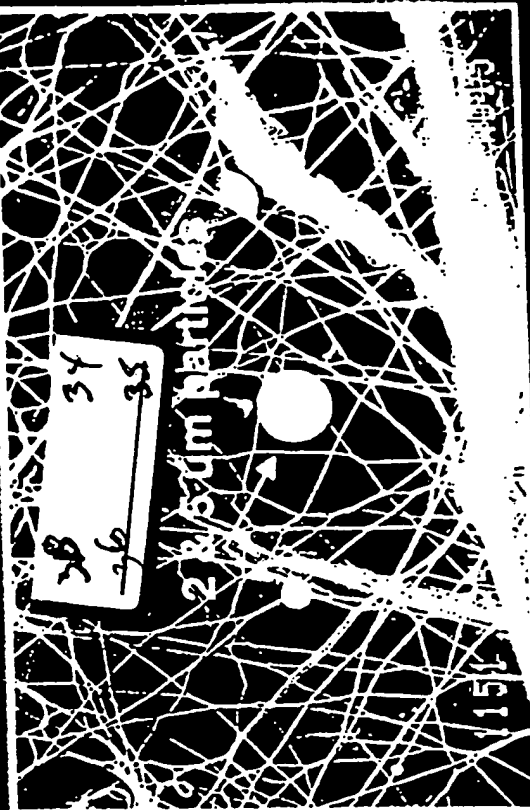
28

24

FM 2

Ultra-Web®

Cellulose Media



2,000 X Scanning Electron Microscope Images

Donaldson

ACS

707250" 545T4860

Katz Analytical Services, Inc.
1191-20C-3, Sample #: 1, Angle: 65

XPS Multiplex

O 1s

EV/Step: 0.2 eV, Time/Step: 50 mSec, Sweeps: 12

Source: Al, Pass Energy: 71.55 eV, Work Function: 4.1 eV

6A
Fig 4: ESCA O 1s Spectra for Samp As Spec

Min: 0 Max: 6658

Curve Fit Summary

Goodness of Fit: 92.77

Iterations: 2

Position

Intensity

% Gauss

Area

%

1 631.04 8627 1.46 98.48% 10320 87.4%

2 532.71 2822 1.86 100.00% 4982 32.6%

O - C

O - C

N(E)

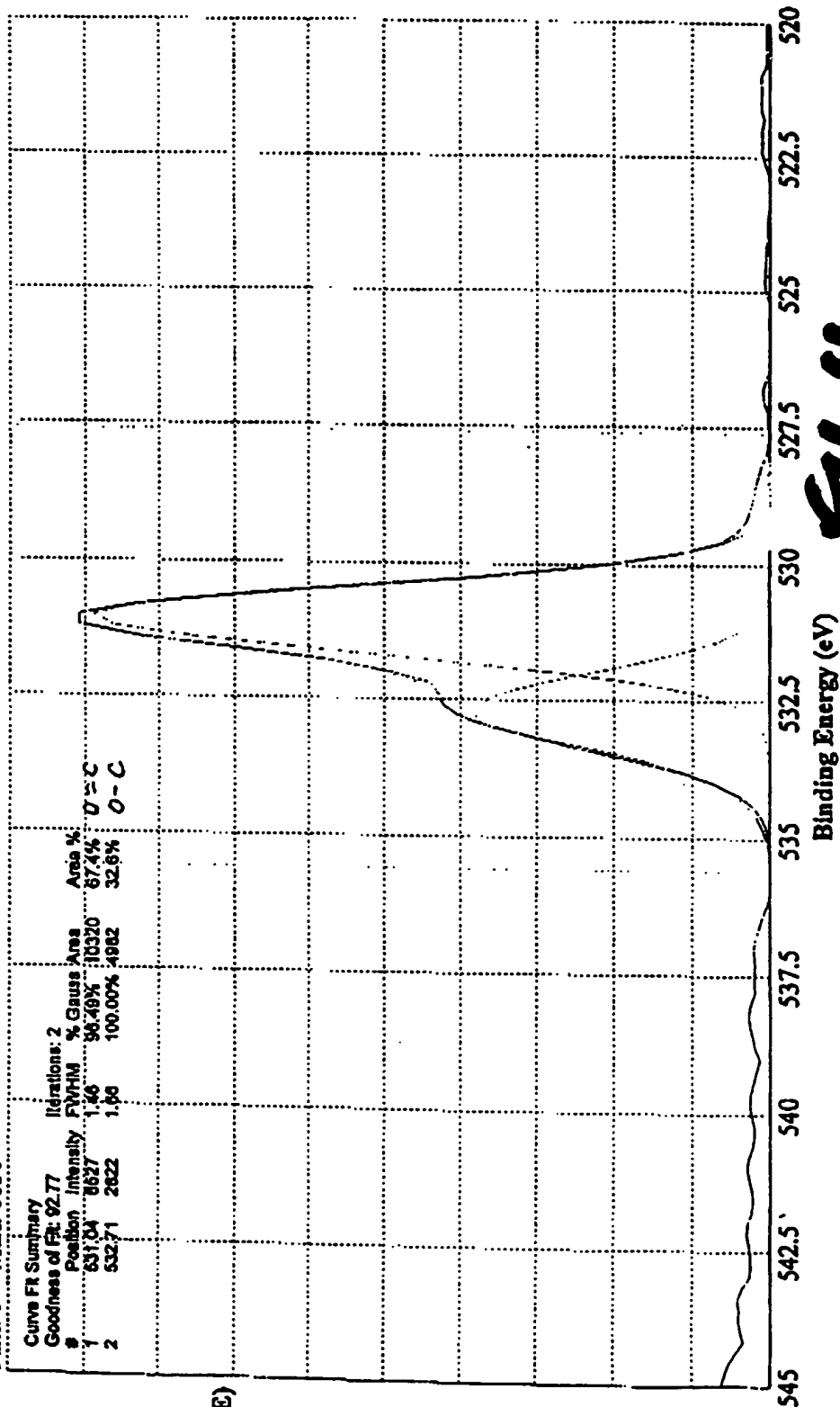


Fig 4

CONFIDENTIAL

CONFIDENTIAL

1191-20C-4

Katz Analytical Services, Inc.
1191-20C-4, Sample #: 1, Angle: 65

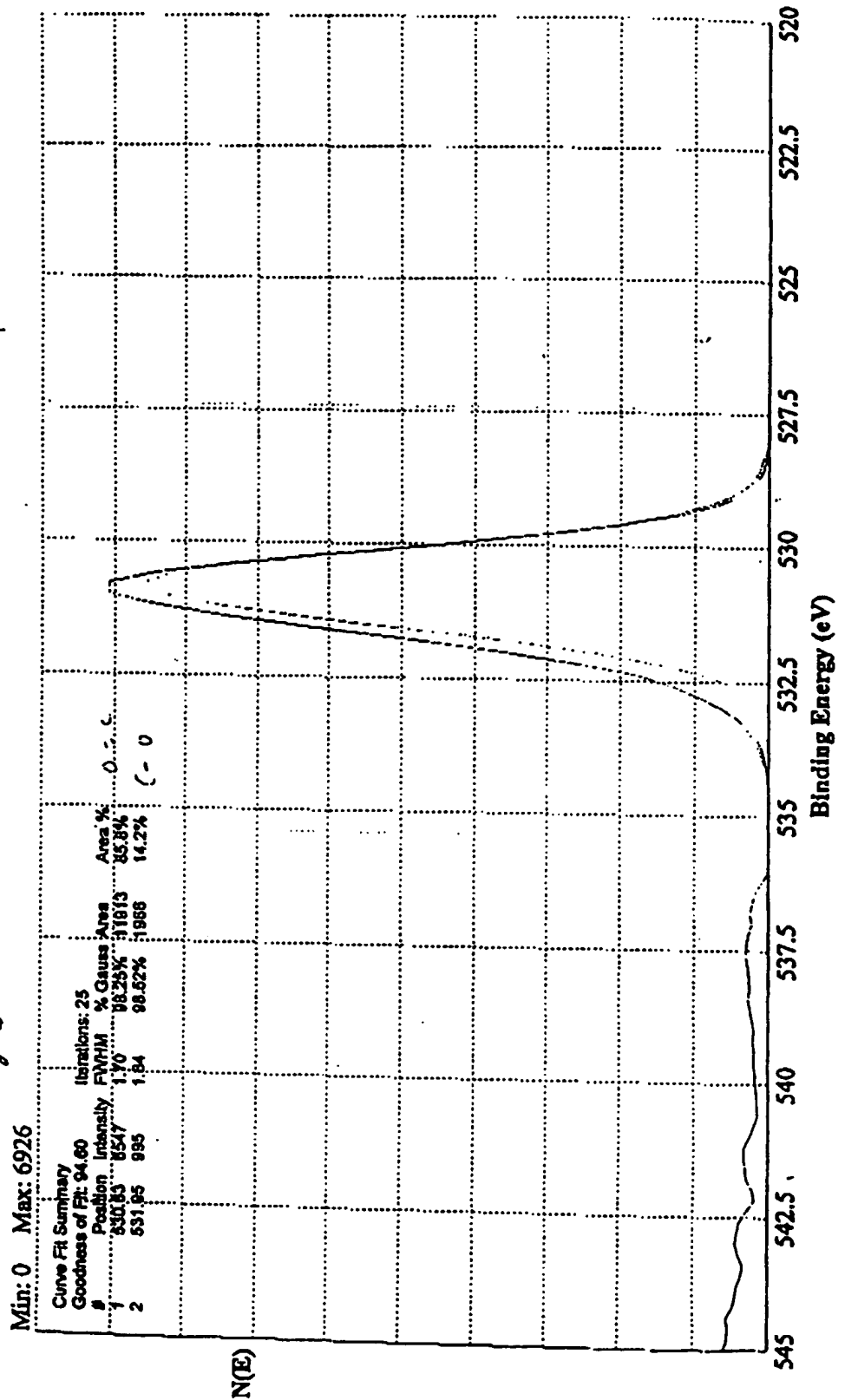
XPS Multiplex

O 1s

EV/Step: 0.2 eV, Time/Step: 50 mSec, Sweeps: 12

Source: Al, Pass Energy: 71.55 eV, Work Function: 4.1 eV

Fig 3. ESCA O 1s Spectra for Heat-Treated Sample 6A



CONFIDENTIAL

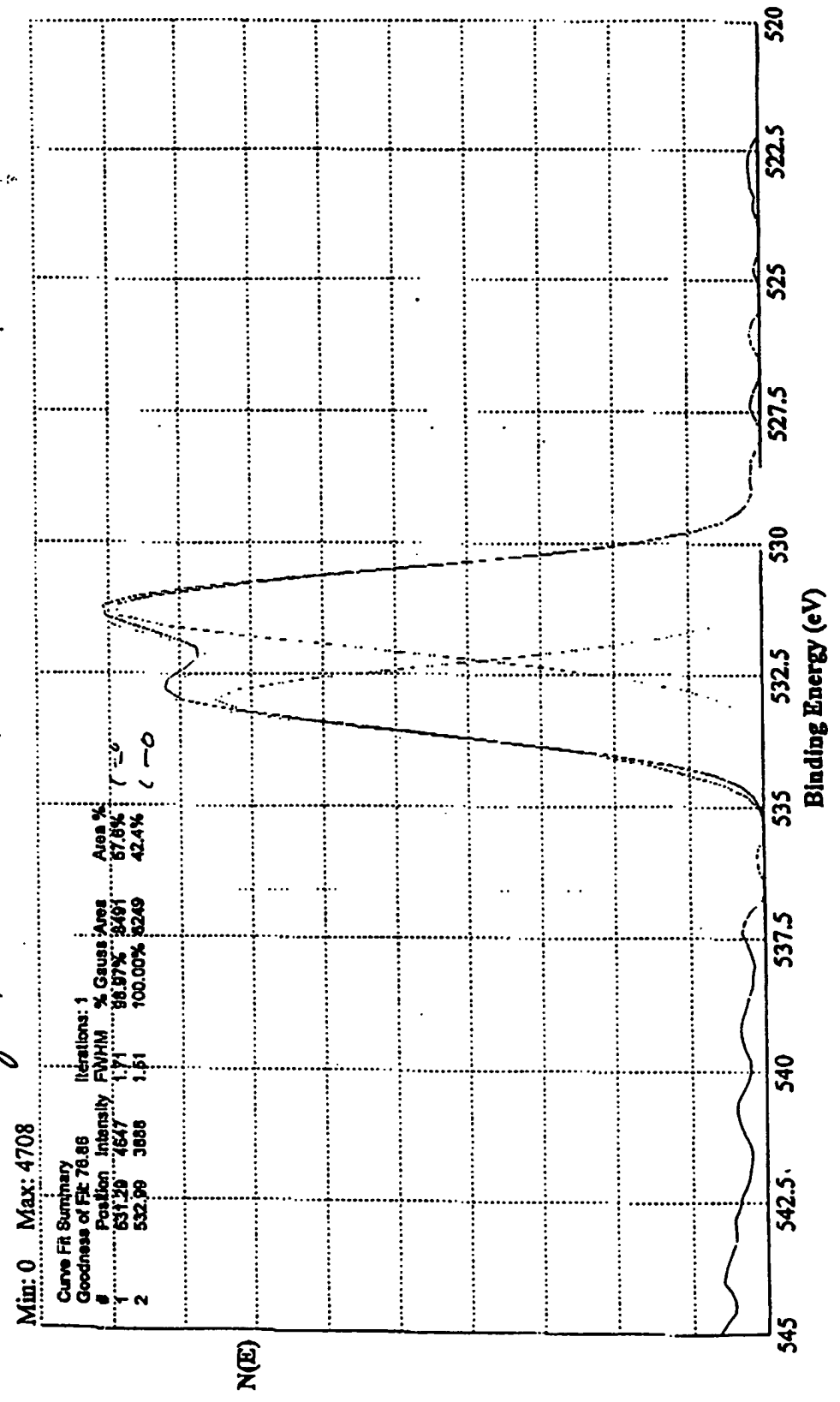
Katz Analytical Services, Inc.
1191-20C-5, Sample #: 1, Angle: 65

XPS Multiplex

O 1s

EV/Step: 0.2 eV, Time/Step: 50 mSec, Sweeps: 12
Source: Al, Pass Energy: 71.55 eV, Work Function: 4.1 eV

Fig. B, ESCA O 1s Spectra for As-Span Example



Katz Analytical Services, Inc.
1191-20C-6, Sample #: 1, Angle: 65

XPS Multiplex

O 1s

EV/Step: 0.2 eV, Time/Step: 50 mSec, Sweeps: 16

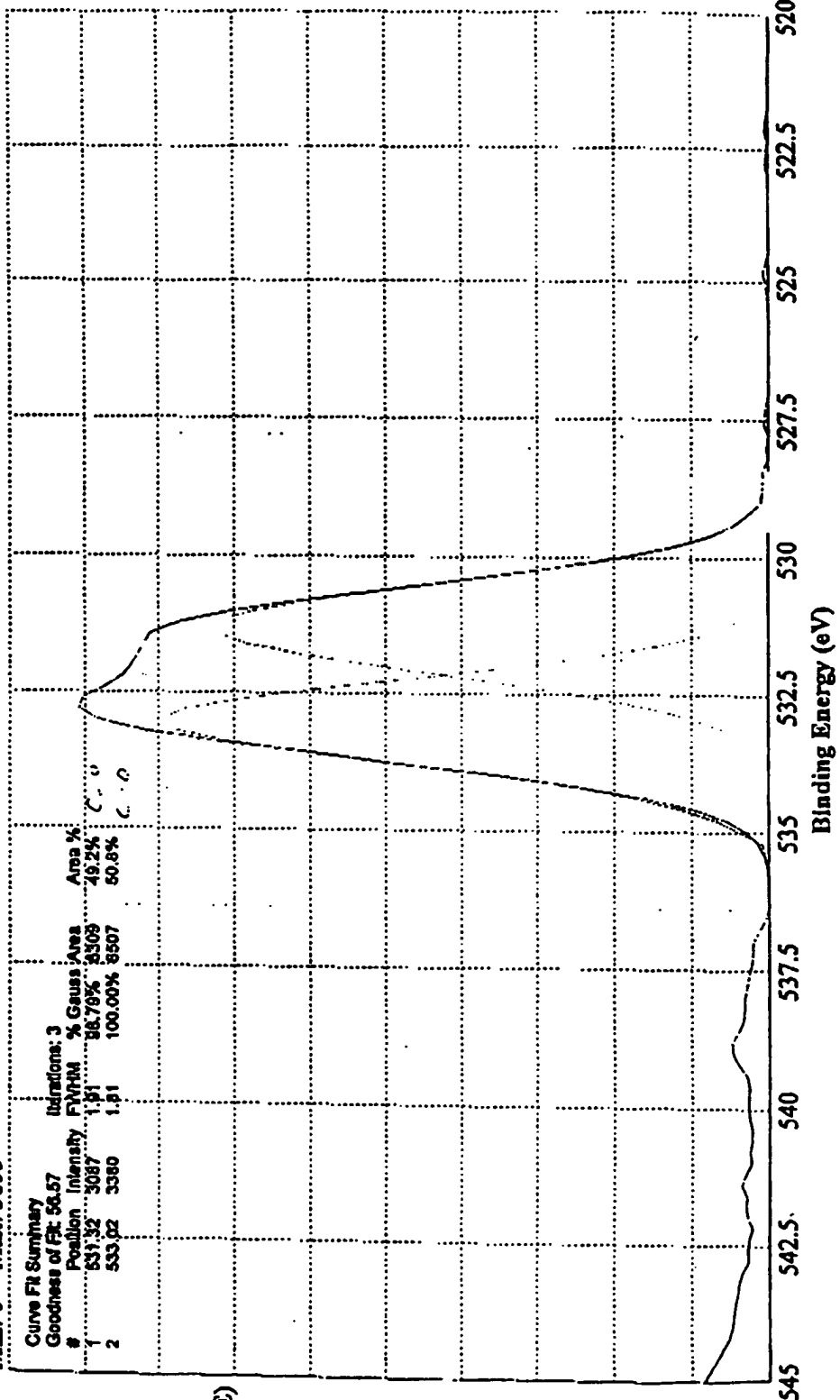
Source: Al, Pass Energy: 71.55 eV, Work Function: 4.1 eV

Fig 9 ESCA O1s Spectra for Heat-Treated Sample 6B

Min: 0 Max: 3855

Curve Fit Summary			
Goodness of Fit: 56.57			
Iterations: 3			
#	Position	Intensity	% Gauss Area
1	531.32	3087	88.76%
2	533.02	3380	100.00%
			8507
			46.2%
			50.8%

N(E)



CONFIDENTIAL

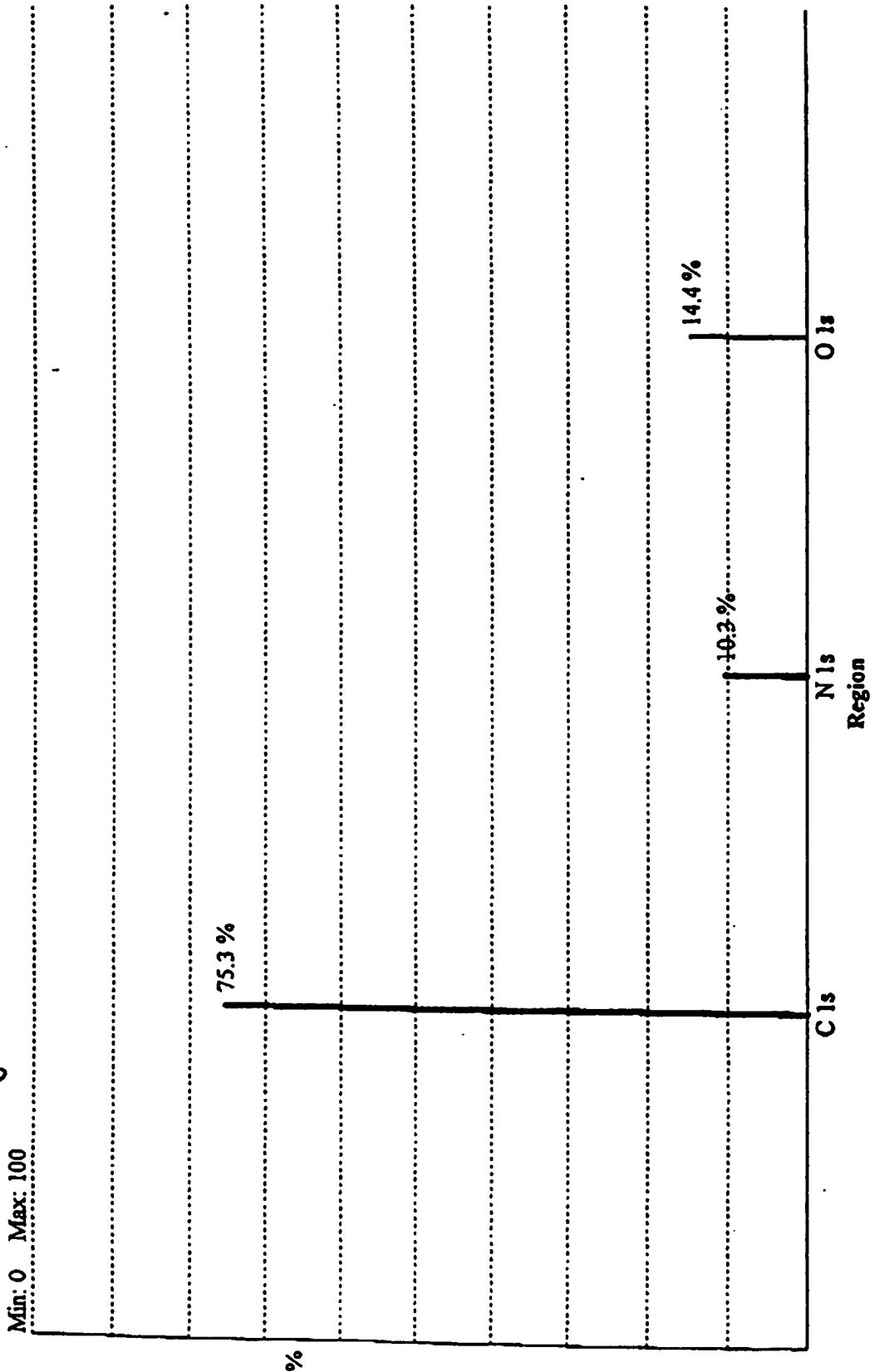
Katz Analytical Services, Inc.
1191-20C-3, Sample #: 1, Angle: 65

P. 08

XPS Multiplex

Source: Al, Pass Energy: 71.55 eV, Work Function: 4.1 eV

Fig 8. ESCA Multiplex for As-Spun Sample 16A



CONFIDENTIAL

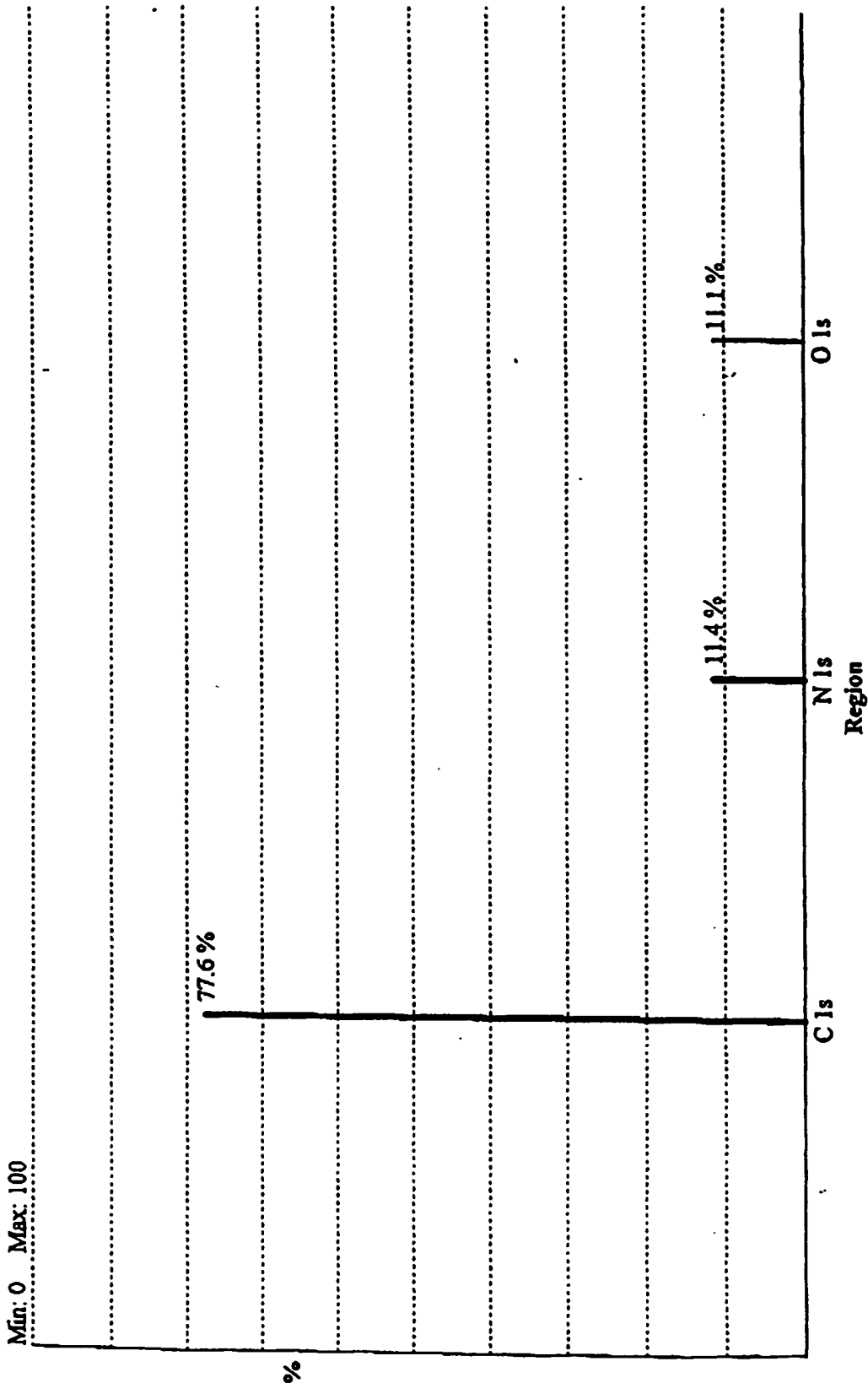
707250 54574350

Katz Analytical Services, Inc.
1191-20C-4, Sample #: 1, Angle: 65

XPS Multipler

Source: Al, Pass Energy: 71.55 eV, Work Function: 4.1 eV

Fig 9. ESCA Multipler for Heat Treated Sample 6A



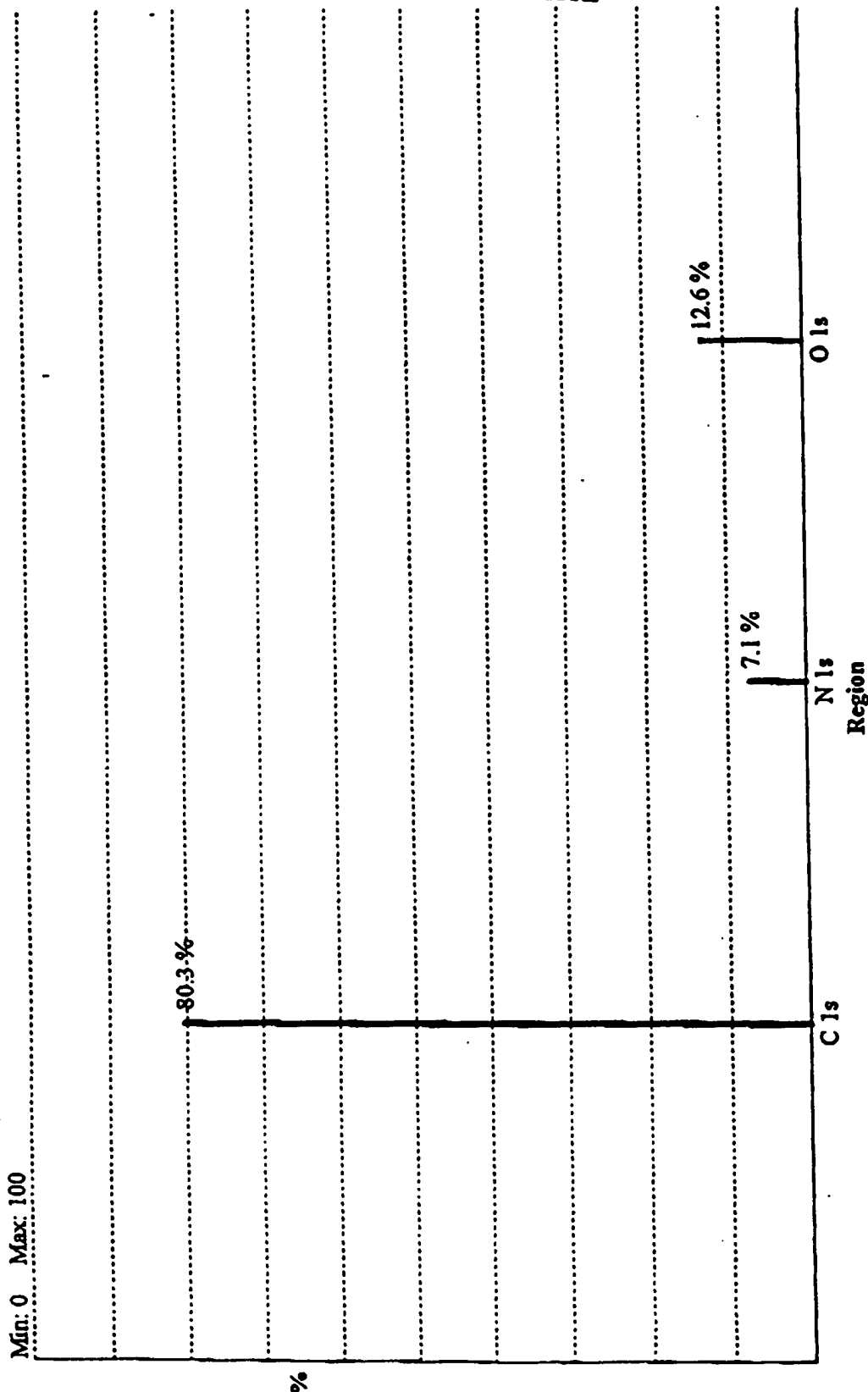
Katz Analytical Services, Inc.
1191-20C-5, Sample #: 1, Angle: 65

XPS Multiplex

Source: Al, Pass Energy: 71.55 eV, Work Function: 4.1 eV

Fig 10

ESCA Multiplex for As-Spun Sample 6B



CONFIDENTIAL

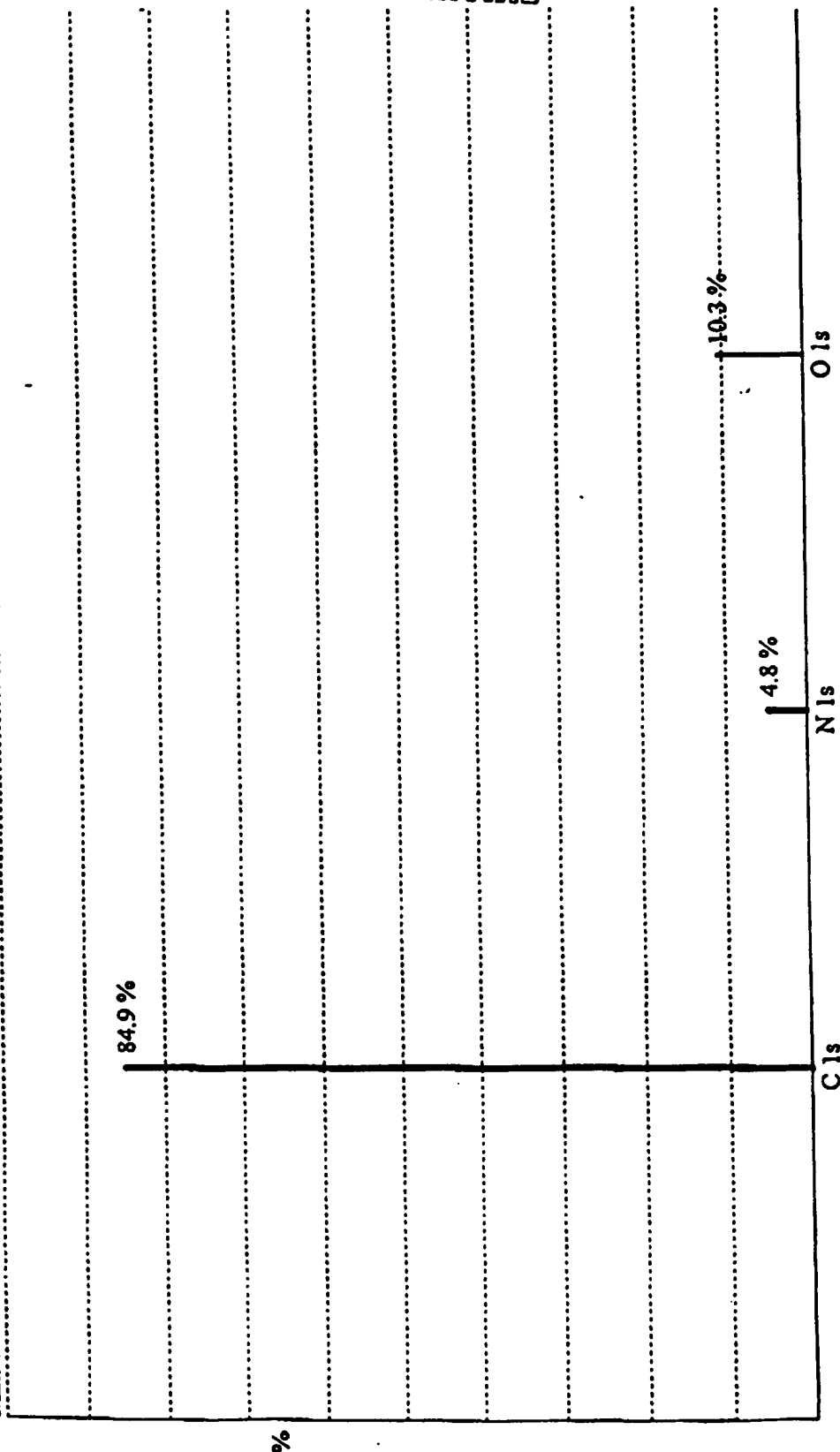
Katz Analytical Services, Inc.
1191-20C-6, Sample #: 1, Angle: 65

XPS Multiplex

Source: Al, Pass Energy: 71.55 eV, Work Function: 4.1 eV

Fig 11 ESCA Multiplex for Heat-Treated Sample 6B

Min: 0 Max: 100



CONFIDENTIAL

CONFIDENTIAL

CONFIDENTIAL

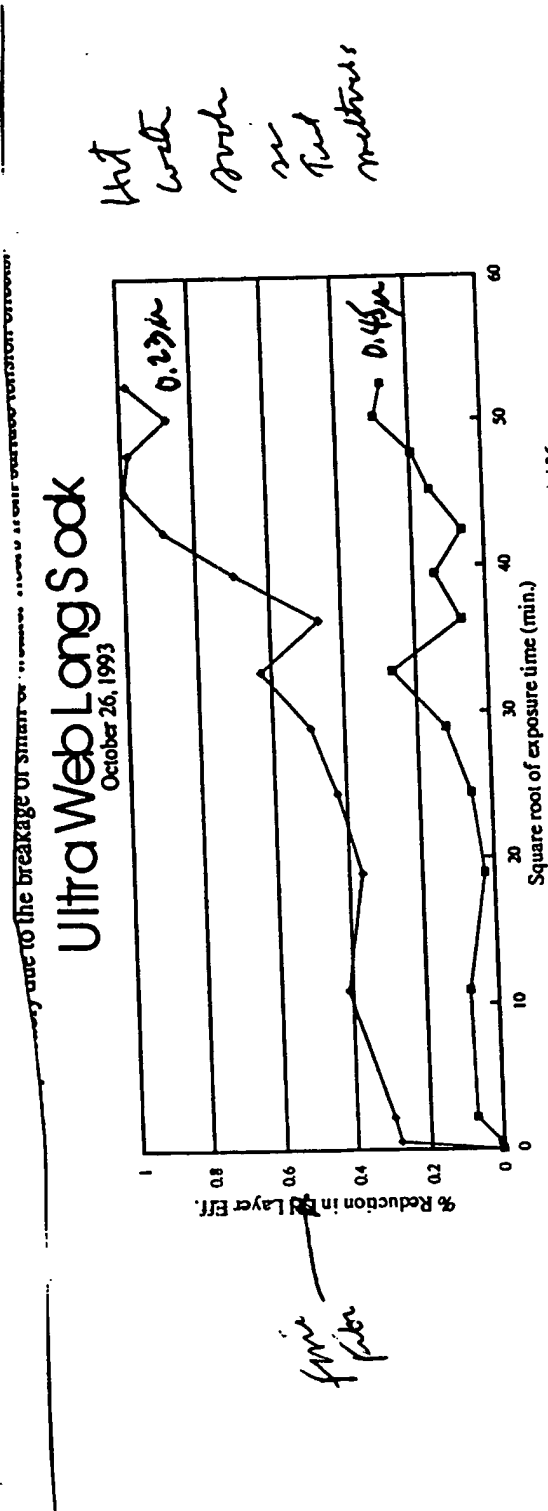


Fig 12

CONFIDENTIAL

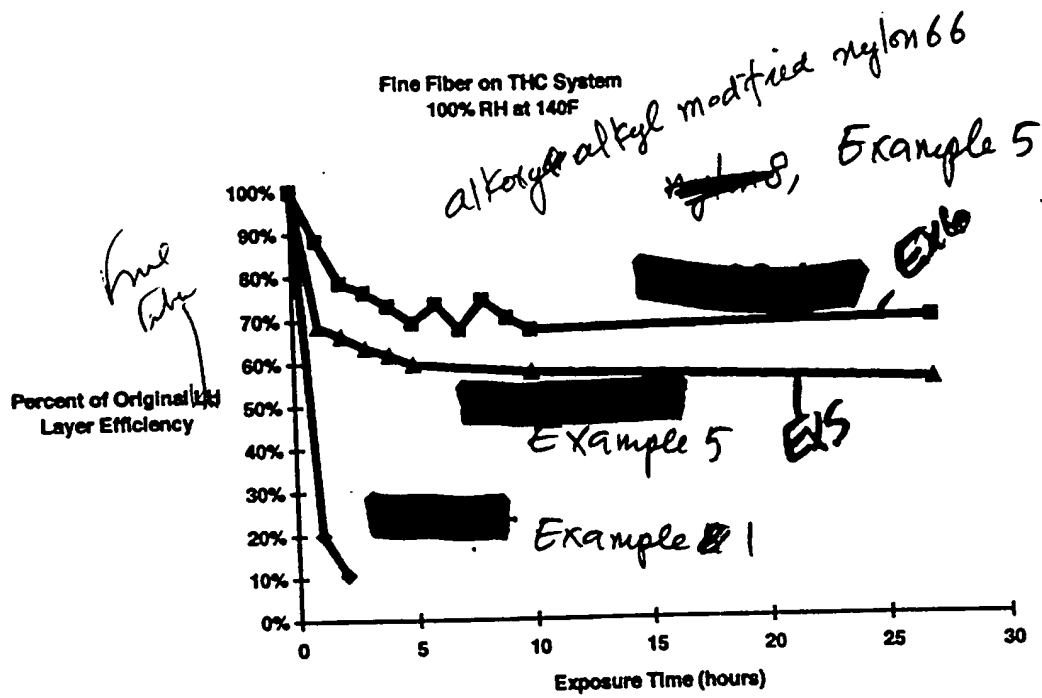
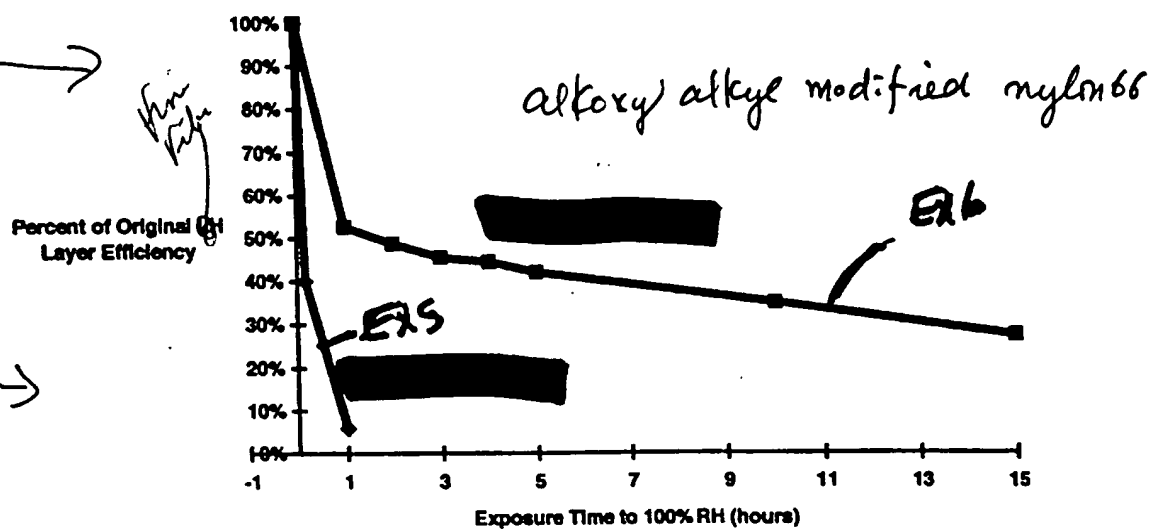


Fig. 13

CONFIDENTIAL

FL 14

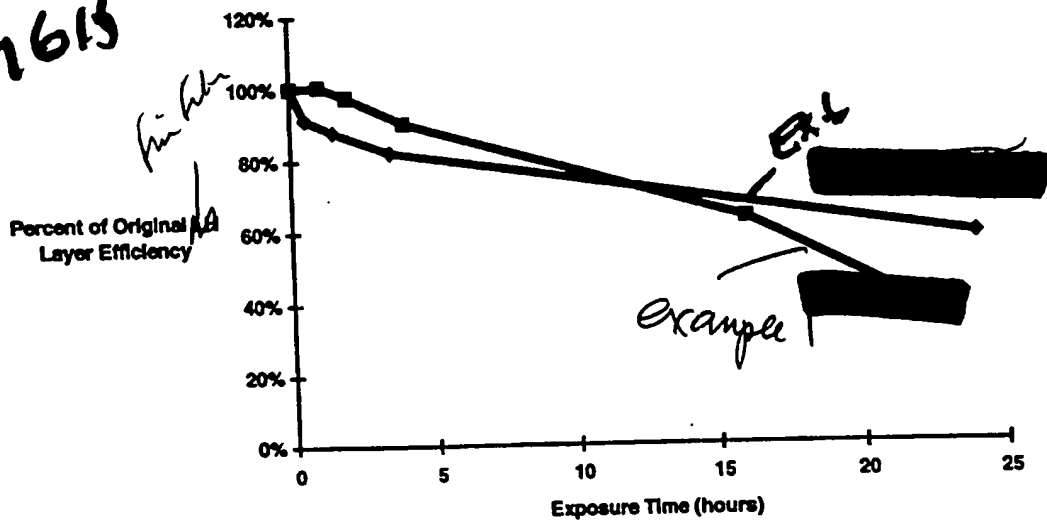
Fine Fiber on the THC System
160 F at 100% RH



CONFIDENTIAL

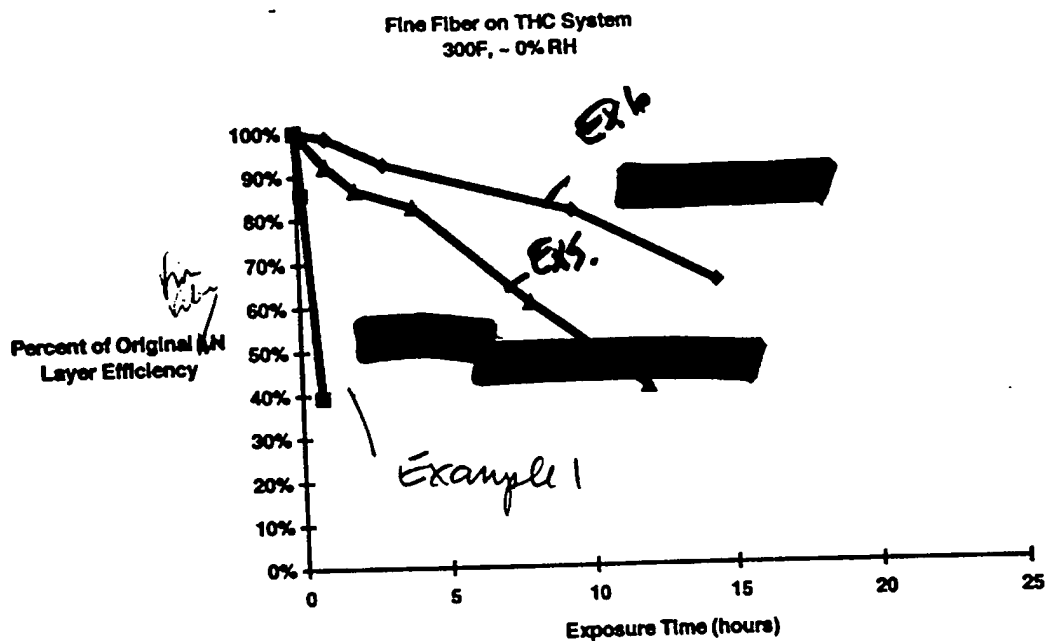
Fine Fiber on THC System
250F, - 0% RH

F1615



CONFIDENTIAL

Fig 16



CONFIDENTIAL

10650 52572550

1st Me H

Sample: 1191-19C-6

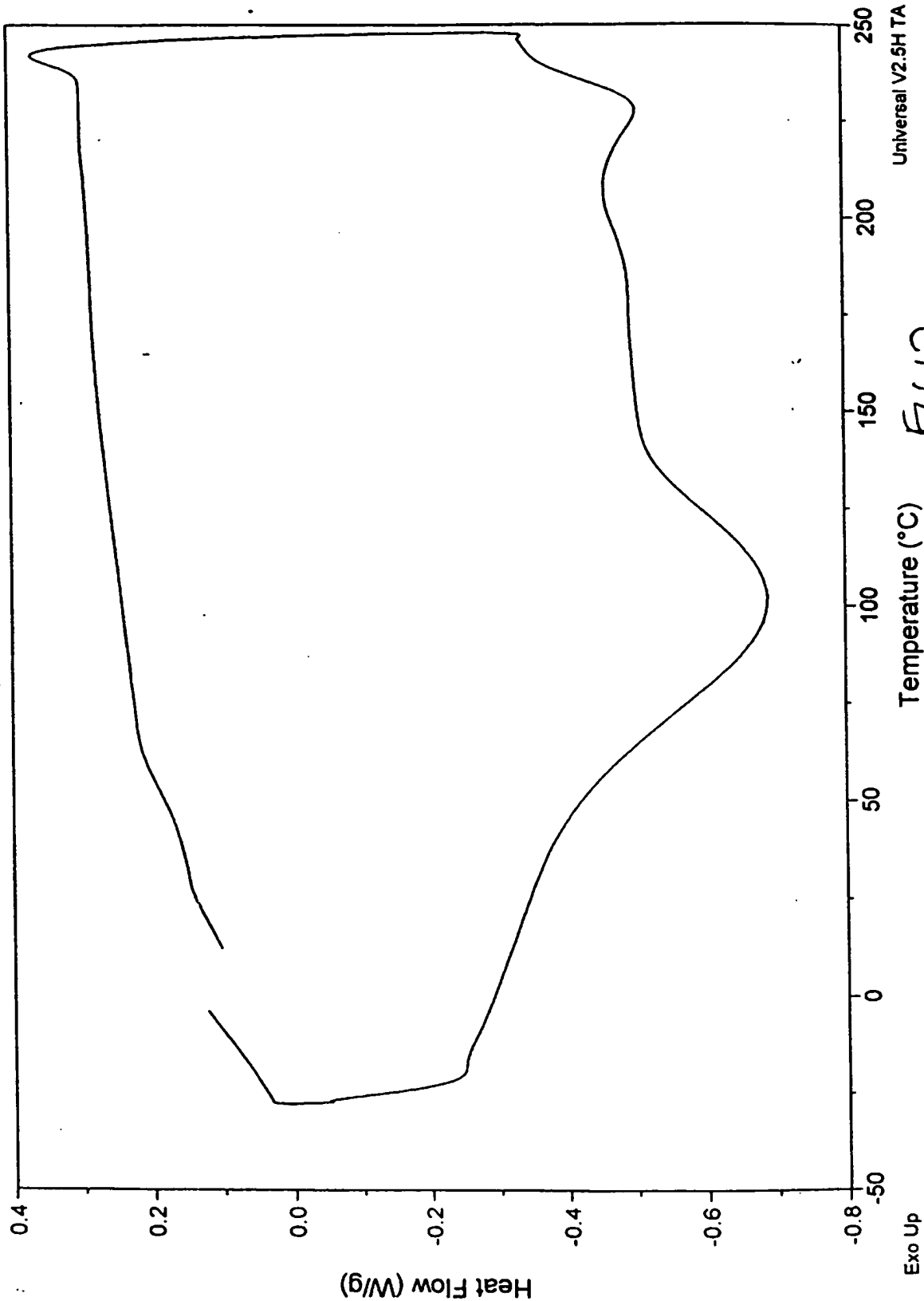
Size: 9.1500 mg

Method: Polymer Samples

Comment: Material characterization

DSC nylon

100% modified 66



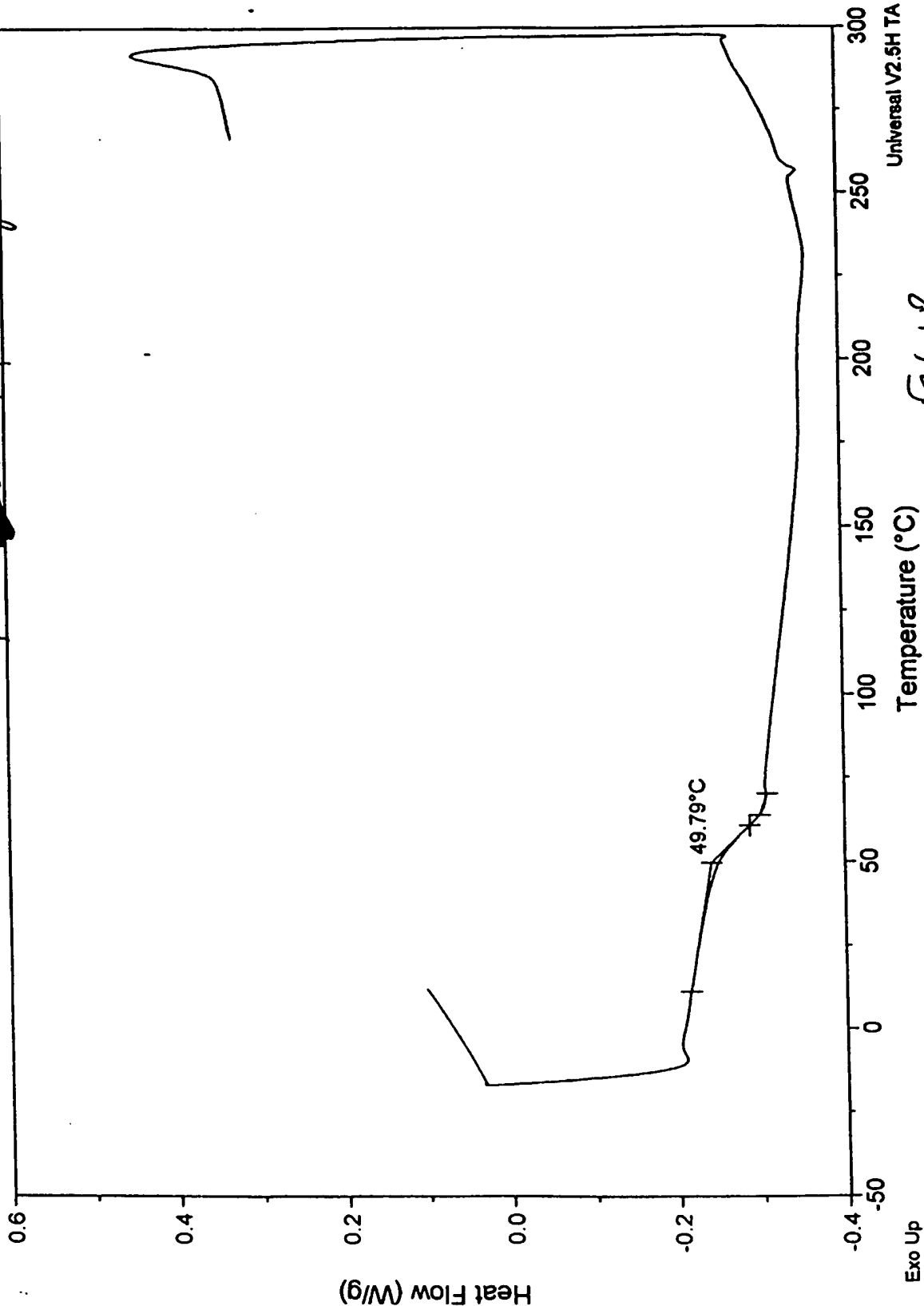
TOP SECRET

CONFIDENTIAL

Sample: 1191-19C-6
Size: 9.1500 mg
Method: Polymer Samples
Comment: Material characterization

2nd Melt
DSC
nylon

100% modified 66 - After Fully Cross-linked



Universal V2.5H TA Instruments

Fig 18
L. 1. 10

1191-19C-7

1st Melt

DSC

Example 6

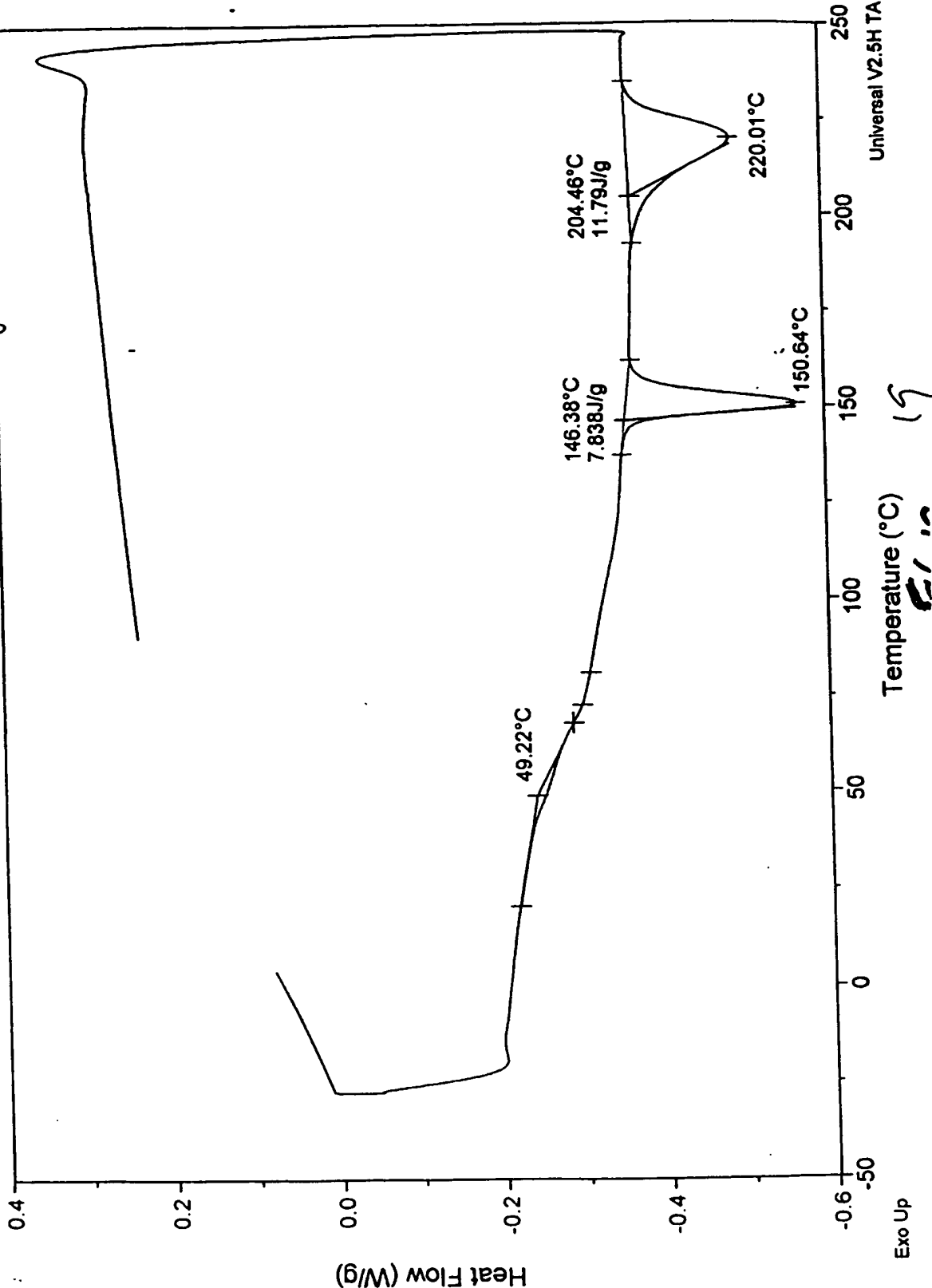
Sample: 1191-19C-7

Size: 9.8400 mg

Method: Polymer Samples

Comment: Material characterization

70% modified 66: 30% co-polyamide



CONFIDENTIAL

Universal V2.5H TA Instruments

CONFIDENTIAL

Sample: 1191-19C-7
Size: 9.8400 mg
Method: Polymer Samples
Comment: Material characterization

Sample 6 2nd Melt DSC

70:30 after Full Cross-linking

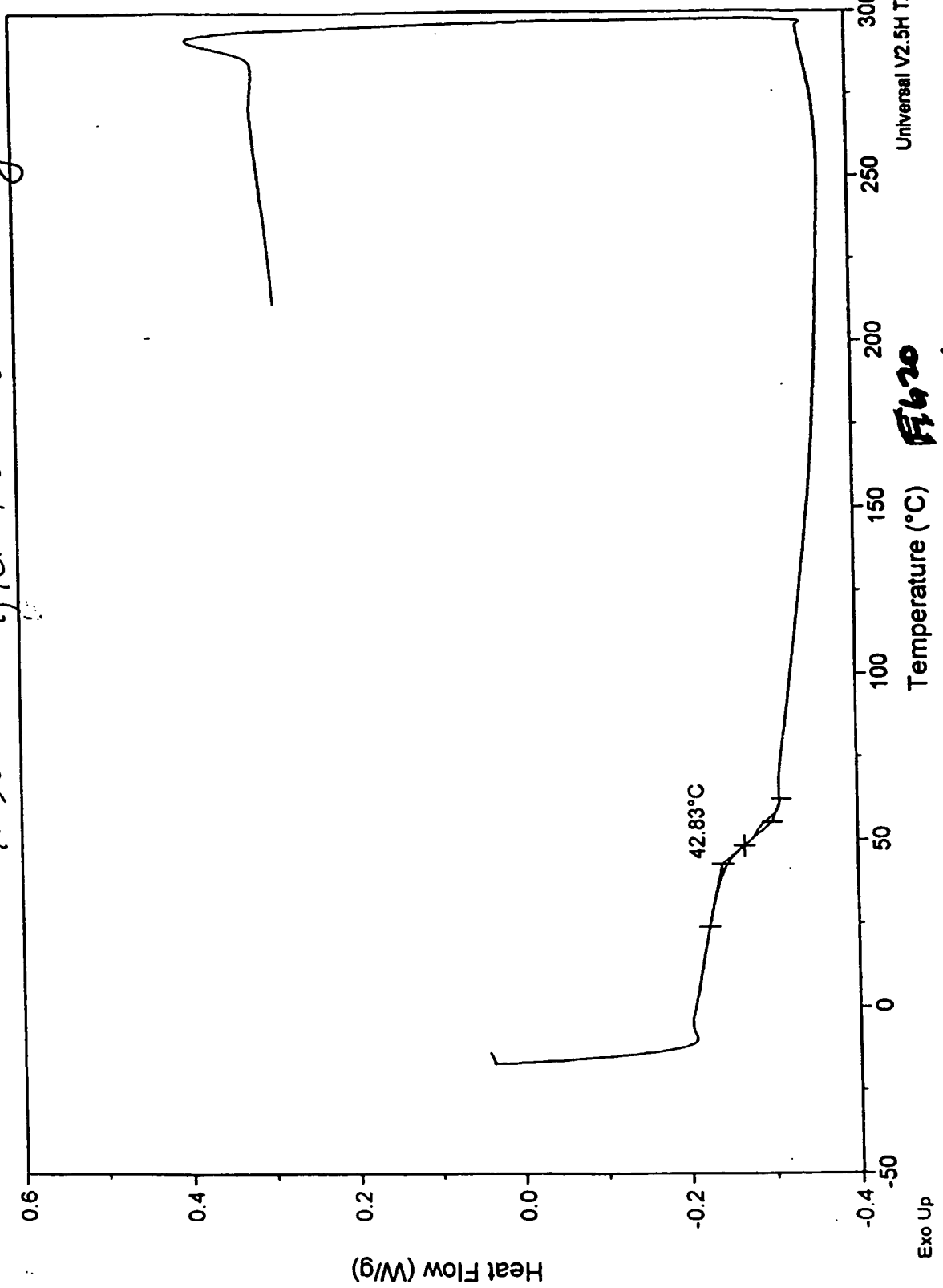


Fig 20

FIG. 21

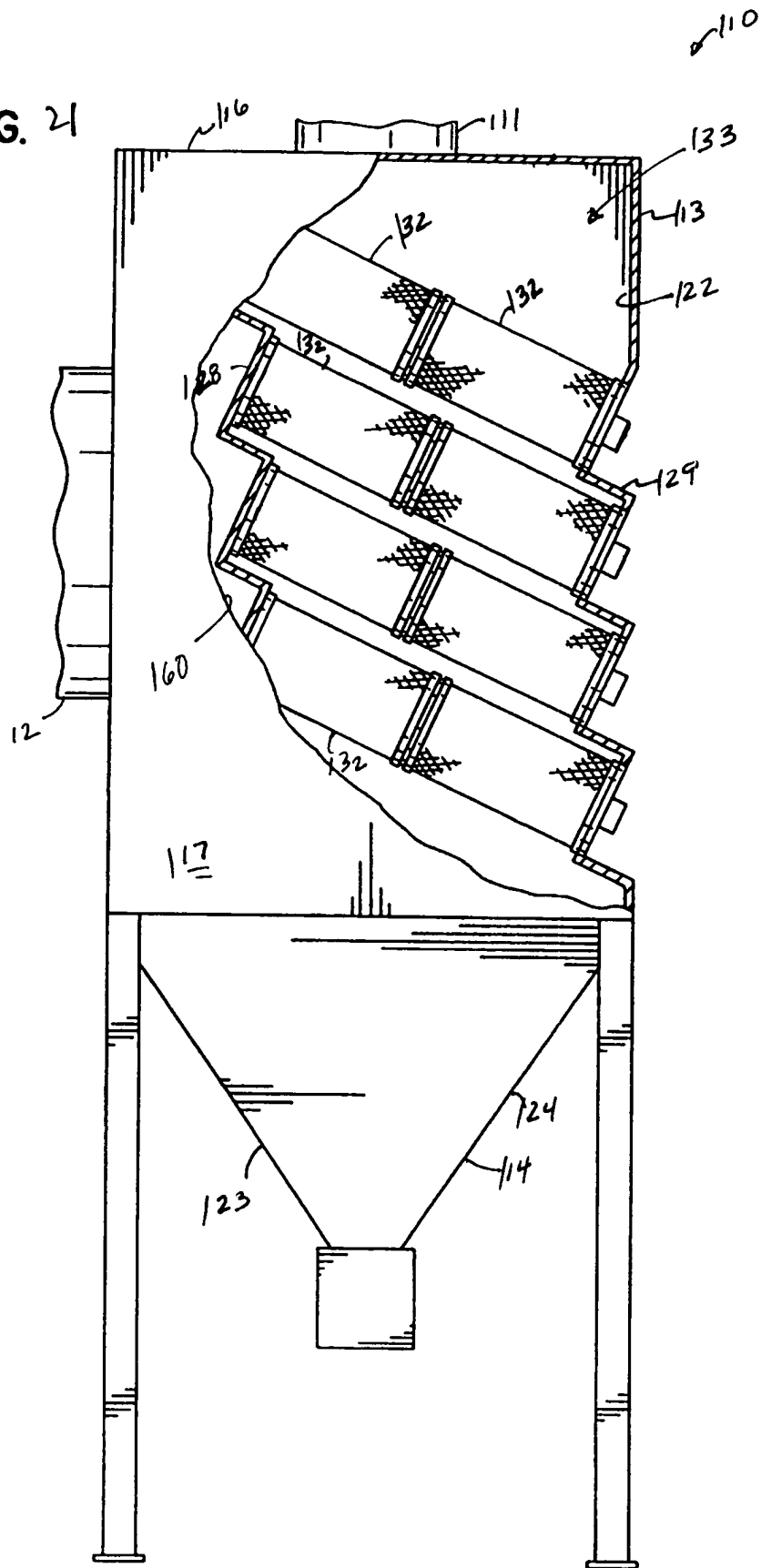


FIG. 22

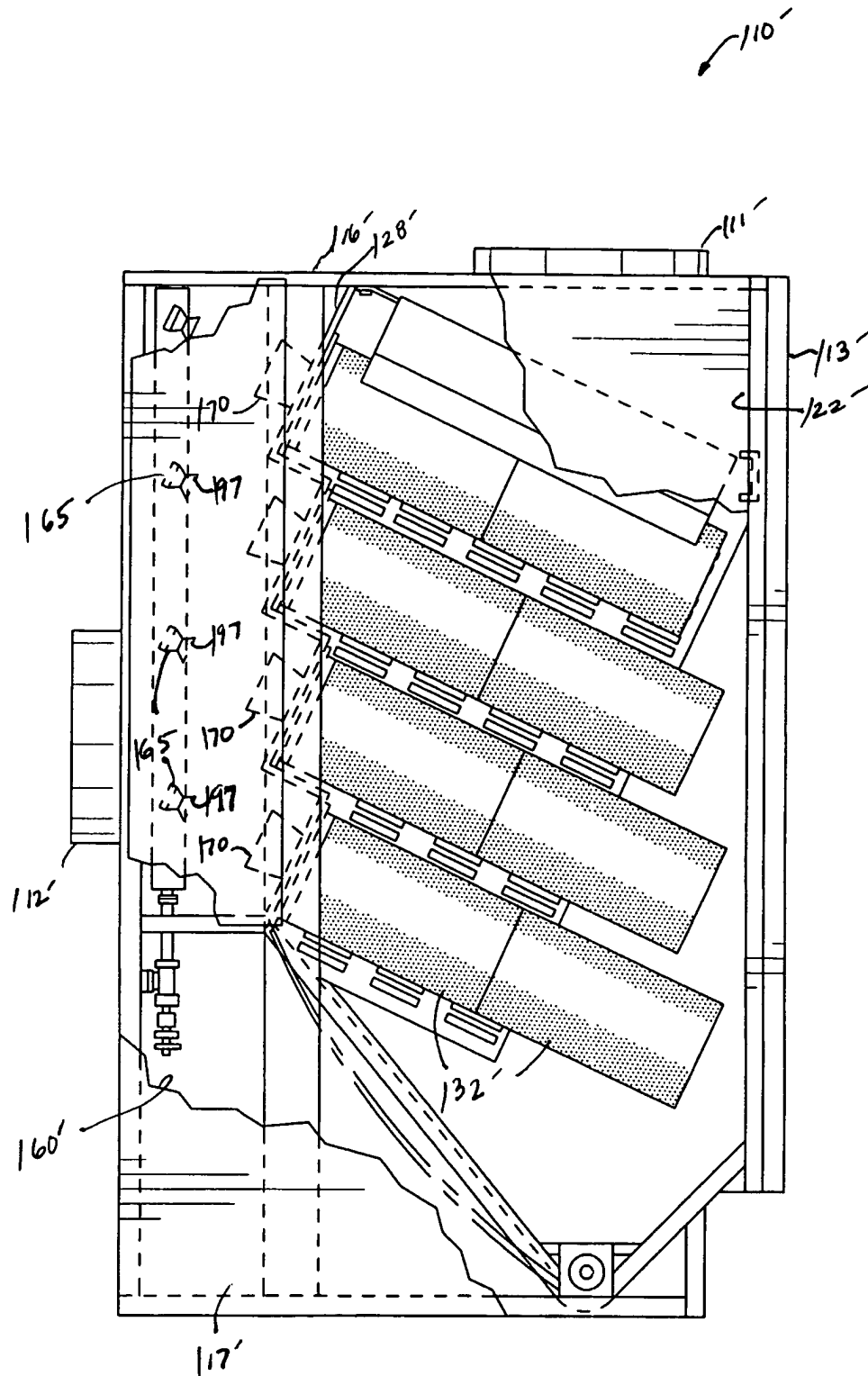


FIG. 23

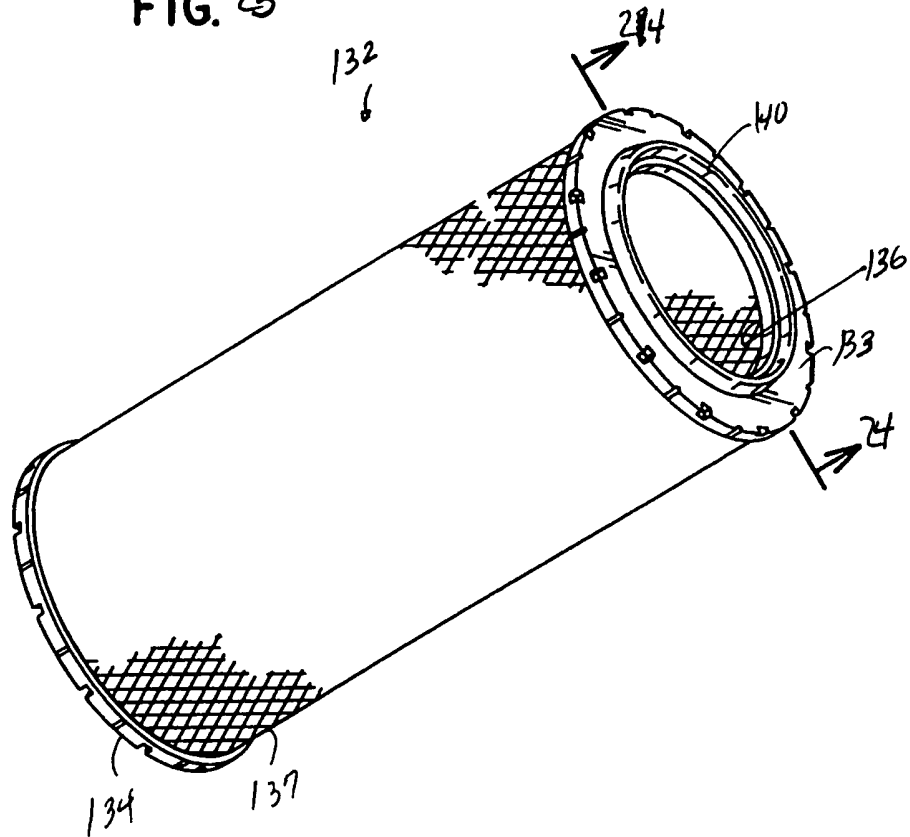


FIG. 25

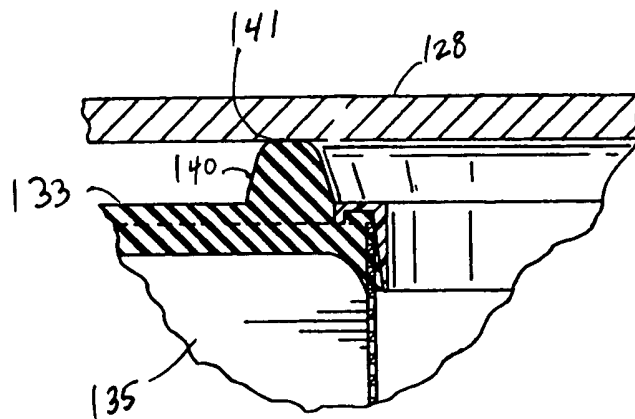
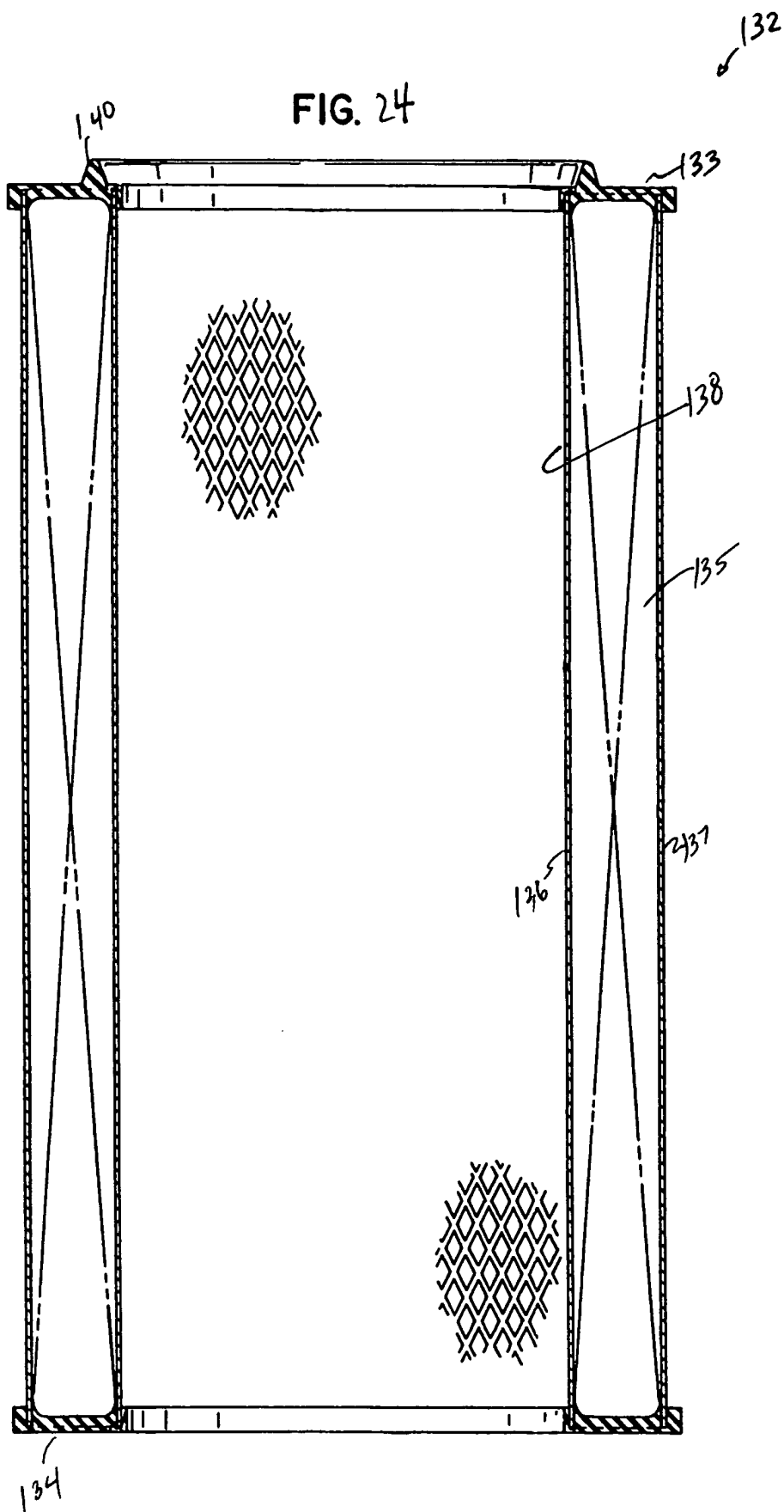


FIG. 24



$\frac{1}{n} \sum_{i=1}^n x_i$

